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[54] **PROCESS AND DEVICE FOR THE SEPARATION AND DETECTION OF COMPONENTS OF A MIXTURE OF MATERIALS BY TEMPERATURE GRADIENT GEL ELECTROPHORESIS**

[75] Inventors: **Karsten Henco**, Erkrath; **Detlev Riesner**; **Gerhard Steger**, both of Düsseldorf, all of Germany

[73] Assignee: **Qiagen GmbH**, Hilden, Germany

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Related U.S. Application Data

[63] Continuation of Ser. No. 200,551, Feb. 22, 1994, abandoned, which is a continuation of Ser. No. 847,761, filed as PCT/EP90/01366 Aug. 18, 1990, abandoned.

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[52] **U.S. Cl.** **435/6**; 935/77; 935/78

[58] **Field of Search** 435/6; 935/77, 935/78, 91.2

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Primary Examiner—Lisa B. Arthur
Attorney, Agent, or Firm—Jacobson, Price, Holman & Stern, PLLC

[57] **ABSTRACT**

The invention relates to a process for the separation and detection of components of a mixture of materials by temperature gradient gel electrophoresis, wherein either

- a spatial temperature gradient is built up by spatially separated temperature levels, or
- a time temperature gradient, or
- a temperature gradient is built up by combination of spatial and timewise temperature gradient.

The temperature levels for building up the spatial temperature gradient are adjusted by controllable heating or cooling devices.

To build up the time temperature gradient, the temperature level at each point of the separation path within the separation medium may be optionally adjusted time-dependently by means of controllable heating or cooling devices. There is described a device for performing the process with controllable heating or cooling devices to build up temperature gradients, a hollow body arranged between the temperature levels which contains the medium used for separation, and a thermostat jacket enclosing the hollow body.

12 Claims, 16 Drawing Sheets